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## ENGINEERING STANDARDS UPDATE

[Standards are serious business](#), but this newsletter isn't.

### Topics this month:

- Tailoring Specs
- FY18 Standards Program Accomplishments/Status
- October is Standards Party Month
- Training & Qualification
- Report Non-Government Standards Work
- LANL Standards Issued in September
- DOE Technical Standards Action
- National Standards Action
- When Good Conduct of Engineering Isn't Followed

The LANL Engineering Standards: <http://engstandards.lanl.gov/>

### TAILORING SPECS

There's still some confusion about the specifier's responsibility and authority for tailoring LANL Master Specifications (LMS). LMS are templates that must be made project-specific to be used, and that's the author's job. ESM [Ch. 1](#) Section Z10 Attachment F governs this process. It was revised in April to further clarify expectations.

#### Key points:

1. The author must add job-specific verbiage.
2. The author must delete portions that don't apply. POC permission is not required for this. This includes submittals that LANL doesn't require (Att F lists these). Two examples:
  - a. A spec discusses circuit breakers and fuses and the project is only installing breakers: delete the fuse verbiage since it's clutter.
  - b. A piping spec is written around meeting ASME and the piping does not need to meet ASME (see [June Update](#)): delete or revise the ASME-related aspects that won't be met.
3. If there are statements that do apply, then the author needs POC permission to revise that requirement. Permission is discussed in Z10 under the heading "Clarifications..." (and it doesn't always mean a formal variance form; see [May Update](#)). Examples:
  - a. A spec says size it for operation at 7500 feet. Author can't just delete or alter that without POC permission.
  - b. A spec says provide a pressure test report for an ASME pressure vessel. Again, author can't just delete or alter that without POC permission since LMS pressure safety submittals are in the Att F listing of always-required submittals.

Questions on this? Contact me. Thanks.

Larry Goen related a story the other day—NASA says that cell phones have more computing power than the original Apollo moon mission computers. Probably so, and prompts this meme that I've been saving.



 world\_of\_enginee...

2,345 likes 1d

world\_of\_engineering Computer delivery - 1957.  
That baby ain't gonna fit through that door 📺

Norwich City Council's first computer, being delivered to the City Treasurer's Department in Norwich. Elliot Brothers was an early UK computer company. And 58 years later.

#engineering #engineer #engineers #computer #computerengineering #uk #norwich #elliot #electronic #pc

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david\_fingerlos @klemens\_mit\_k  
chuck.clouds @bill\_cosby\_stills\_and\_nas h  
farahismail7 Hahaha impressive @alihismail  
aascans @landseerbotha

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**FY18 STANDARDS PROGRAM ACCOMPLISHMENTS/STATUS**

There's no army doing LANL Standards upkeep. Not even a brigade, battalion, company, or platoon. A squad is about right. Although they're part-time like reservists, they're all professionals for sure. (This army lingo is in honor of Mike Brazile of T&Q fame, formerly of the Special Forces, who's supposedly now retiring at the end of October. I suspect we might not be seeing the last of him).

Anyway, In the just-ended FY18 we revised around 40 LANL Master Spec sections and cancelled three. In the Engineering Standards Manual, we revised three entire chapters and eight sections or other documents in other chapters (and the ESM and some specs were nuclear-grade). Finally, we revised six Standard Detail sets. Not too shabby.

The heavy focus on specs, combined with the nearly 100 revised in FY17, means that all but a few of the 194-ish spec templates have been revised at least once in the past couple of years. We'll chip away at the rest going forward and otherwise maintain the collection. It also means the somewhat-neglected ESM will get more attention in this new fiscal year. Expect to see revision to parts or all of the General, Architectural, Electrical, Sustainable Design, IBC Program, and Pressure Safety chapters—and that's just this fall.

## OCTOBER IS STANDARDS PARTY MONTH

It's October, and so standards professionals party, as if wild folks like us need an excuse. Nothing so mundane as Oktoberfest, though. Instead, we have [World Standards Week](#), which is October 15-19. And the wildest day of them all, the [U.S. Celebration of World Standards Day](#) on October 18. This year's one-day event will be even crazier—ANSI is serving as Administrating Organization, to honor ANSI's 100th anniversary. ANSI people are so into standards that they don't even focus on a single technical discipline or subject. Wild and crazy, I tell you.

Also, the learn-not-to-burn folks have Fire Prevention Week. Per the ICC, President Woodrow Wilson designated the first one in 1920, making it the longest running public health and safety observance in the United States, and it "provides an opportunity to emphasize and educate the public about the importance of fire prevention. Fire departments across America have designated the second week of October [7-13 this year] as Fire Prevention Week in commemoration of the Great Chicago Fire of 1871 that killed more than 250 people." FYI, the NFPA was established in 1896 and their efforts have contributed to reducing U.S. annual fire deaths to well less than 4000. (for comparison, firearm deaths are 10 times higher, so be very careful when hunting, enraging drivers, or visiting Chicago's South side).

Fox News watchers can skip this paragraph: Because the once-a-year Earth Day events are not enough, rational people now have October 5, the second annual [Energy Efficiency Day](#), a "growing, collaborative, energy efficiency awareness campaign." As the Division's current Environmental Management System cheerleader (anyone else want to get involved?), I'll point out that the Lab takes the lead on a lot of facility and infrastructure improvements, so maybe readers can instead up their game on recycling, or their offsite carbon footprint. In barely related news, LANL's last Energy Conservation Day holiday is December 26 this year. It will be eliminated starting in 2019; rumors are that it will be renamed Recruitment/Retention Disincentive Day II, due to its requiring vacation leave (Columbus Day being Day I).

## TRAINING & QUALIFICATION

### Project Engineer Qual Standard Initial Issue

Thanks to Dennis Graves, Mike Brazile, and others, there's now greater recognition of the important and challenging role that project engineers in ES-EPD perform—in the form of a qualification standard. As with all such CoE T&Q documents, it can be accessed from the CoE Office T&Q Program's [Courses and Qual webpage](#), or directly here [Project Engineer Qualification Standard \(pdf\)](#), ESD-QS-006. Here's the text of the Purpose and Scope section, FYI:

This document describes the training and qualification requirements for the Project Engineer (PE) position at the Los Alamos National Laboratory (LANL). Analysis indicates that the Project Engineer position is not required to meet the requirements of DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities* for "Technical Staff" positions. However, Engineering Services Division (ESD) has decided to hold their Project Engineers to a higher professional standard by developing a qualification program for the PEs.

As per SD 350, *Project Management for Capital Asset Acquisition and Construction*, the Project Engineer provides the core, or focal point, for all capital asset project design activities, directs, leads, and manages assigned engineering personnel and engineering support including engineering subcontractors (Design Agency). The PE manages technical resources and ensures that proper engineering processes are followed, and ensures project owner needs and technical requirements are documented.

The Project Engineer is assigned to a project by the Engineering Services Division/Group Management and is deployed to the project.

**Electrical Standards – Weds, Nov 7**

Four-hour course 17998 covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. AEs are also encouraged to attend. Taught by Electrical Standards POC Eric Stromberg from 7:30–11:30 am, at White Rock Training Center TA-00-1308 Rm 105.

**Registering for UTrain Courses:** Go to [UTrain](#). Search on course, assign to yourself, select and enroll. Disenroll if you have to bail. AEs can also register; use token (CryptoCard) or contact Yolanda Trujillo at 665-5696 or [yjtrujillo@lanl.gov](mailto:yjtrujillo@lanl.gov) with Z number.

**REPORT NON-GOVERNMENT STANDARDS WORK**

Final appeal: If you're a Lab employee serving on a committee maintaining or writing a national or international code or standard for which I'm not aware, please contact me (same when work stops). Examples are ASME, ASTM, ISO, NFPA, etc. Over 50 employees serve on over 150 committees do such work which we must report to DOE-HQ per the contract ([more than any other site](#)). Known suspects (additions since last month in bold):

Randall D. Austin	David A. Fry	Robert C. Little	Michael W. Salmon
Michael E. Bange	David P. Fuehne	Jean-Francois Lucchini	Michelle E. Silva
Luiz Bertelli	Milan S. Gadd	Michael W. Mallett	Phillip H. Stauffer
David A. Bingham	Michael (Misha)	Kattathu J. Mathew	Jacob Stinnett
Kelly L. Bingham	Gallegos	<b>Eric R. MacFarlane</b>	James R. Streit
Amber N. Black	Lloyd B. Gordon	Thomas D. McLean	Jared T. Stritzinger
David A. Bruggeman	David P. Harvey	Renee A. Mondragon	Ari Ben Swartz
<b>Joanne L. Budzien</b>	Vladimir Henzl	Murray E. Moore	Taunia S. Van Valkenburg
<b>Kyle D. Carr</b>	Jon E. (Rick) Hinckley	William L. Myers	James Thomas (Tom)
Ralph J. Clayton	Patrick W. Hohanadel	Glen J. Pappas	Voss
Paul J. Contreras	Daniel A. Javernick	Donivan R. Porterfield	Tom L. Waters
Paula R. Diepolder	Benjamin Karmioli	Jose E. Rodriguez	Jeffrey J. Whicker
Shannan D. Diffey	Brett R. Krueger	Christopher Romero	Brandon M. Wilson
Scott W. Doebling	Joel A. Kulesza	Mark S. Rosenberger	Ning Zhang
Donald J. Dudziak	Richard C. Lee	Scott R. Salisbury	
	Paul O. Leslie		N3B: Ernest P. Elliott

**LANL STANDARDS ISSUED IN SEPTEMBER**

<b>ESM <a href="#">STD-342-100</a></b>	
Ch 16 LANL Building Official Approvals	Revised
Ch 17 Pressure Safety: ADMIN-2-Form-1C-R0	New! Thanks to POC Ari Ben Swartz
Ch 17 Pressure Safety: REF-1, Chapter References	10 CFR 851 reference updated to include recent Tech Amendment

<b>Master Specifications <a href="#">STD-342-200</a></b>	
08 1400R4 Wood doors	Reference name change. Thanks to POC Scott Richardson.
32 1216R6 Asphalt Paving	Added criteria for selection of mix design based on design requirements, NMDOT personnel recommendations, test strip, lower acceptance threshold. Thanks to Alt POC Donald Yardman, Natalie Romero-Trujillo, John O'Brien, POC Scott Bane, others.

<b>Std Drawings &amp; Details <a href="#">STD-342-400</a></b>	
In listing the contributors to last month's Std detail updates, I neglected to acknowledge all the behind-the-scenes structural calc work by Ben Winter. Thanks to him!	

**DOE TECHNICAL STANDARDS ACTION**

STDs [postings](#) in the past month: DOE-STD-1111-2018, [Department of Energy Laboratory Accreditation Program Administration](#)

**NATIONAL STANDARDS ACTION**

LANL's [IHS](#) subscription reports these changes. ESM Ch 1 Section Z10 says "Errata (correct errors) to any document...are mandatory regardless of contract award date or code of record," so errata apply—assuming the standard is part of the project's code of record.

Some of our favorites have been revised, although when following the IBC we'd use the editions referenced by that.

Document number: API STD 1104  
 Publication Date: 9/1/2013  
 Title: Welding of Pipelines and Related Facilities  
 Refer to: AWS OD84417  
 Type of Change: Errata/Erratum

Document number: ASTM A450/A450M  
 Publication Date: 9/1/2018  
 Title: Standard Specification for General Requirements for Carbon and Low Alloy Steel Tubes  
 Type of Change: Complete Revision

Document number: NFPA 13  
Publication Date: 1/1/2019  
Title: Standard for the Installation of Sprinkler Systems  
Type of Change: Complete Revision

Document number: NFPA 72  
Publication Date: 1/1/2019  
Title: National Fire Alarm and Signaling Code  
Type of Change: Complete Revision

Document number: NFPA 80  
Publication Date: 1/1/2019  
Title: Standard for Fire Doors and Other Opening Protectives  
Type of Change: Complete Revision

#### **WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED**

David Apple helps us a lot with improvement ideas. He sent me this photo from off-site at a private business location. See if you can identify the problem. If you can't, here are some clues:

Austin parking garage video <http://www.chicagotribune.com/news/nationworld/weird/ct-austin-parking-garage-video-20170811-story.html>

Chicago parking garage car [https://www.youtube.com/watch?v=x48ghi5\\_VnI](https://www.youtube.com/watch?v=x48ghi5_VnI)

Third video <https://www.youtube.com/watch?v=sqCWtBMm4d0>



## LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "Monthly Update" on the Standards homepage. Last month's topics:

- **Online Standards Seminar/Pizza Tues, Sept. 11**
- **EDRMS Access**
- **Compressed Gas Association (CGA) Standards Access**
- **Electronic Signatures on Drawings**
- **Report National Standards Work**
- **Concrete Anchors for Nuclear Work**
- **LANL Standards Issued in August**
- **DOE Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

The views expressed in this email are not necessarily those of my employer, which will change November 1.

To request a change to this newsletter's distribution, please contact me.

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